

ABSTRACT

In accordance with the present invention, there is provided a novel restriction endonuclease obtainable from *Bacillus thermoglucosidasius* 36A (NEB#1384), hereinafter referred to as "BtgZI", which endonuclease:

- (1) recognizes the nucleotide sequence 5'-GCGATG-3' in a double-stranded DNA molecule as shown below,

5'-GCGATGNNNNNNNNNN↓-3' (SEQ ID NO:9)
3'-CGCTACNNNNNNNNNN↑-5'

(wherein G represents guanine, C represents cytosine, A represents adenine, T represents thymine and N represents either G, C, A, or T);

- (2) cleaves said sequence in the phosphodiester bonds between the 10th and the 11th nucleotides 3' to the recognition sequence in the 5'-GCGATG-3 strand of the DNA, and between the 14th and 15th nucleotides 5' to the recognition sequence in the complement stand, 5'-CATCGC-3', to produce a 4 base 5' extension; and
- (3) cleaves double-stranded pBR322 DNA to produce 3 fragments of 2892, 1181 and 288 base pairs.